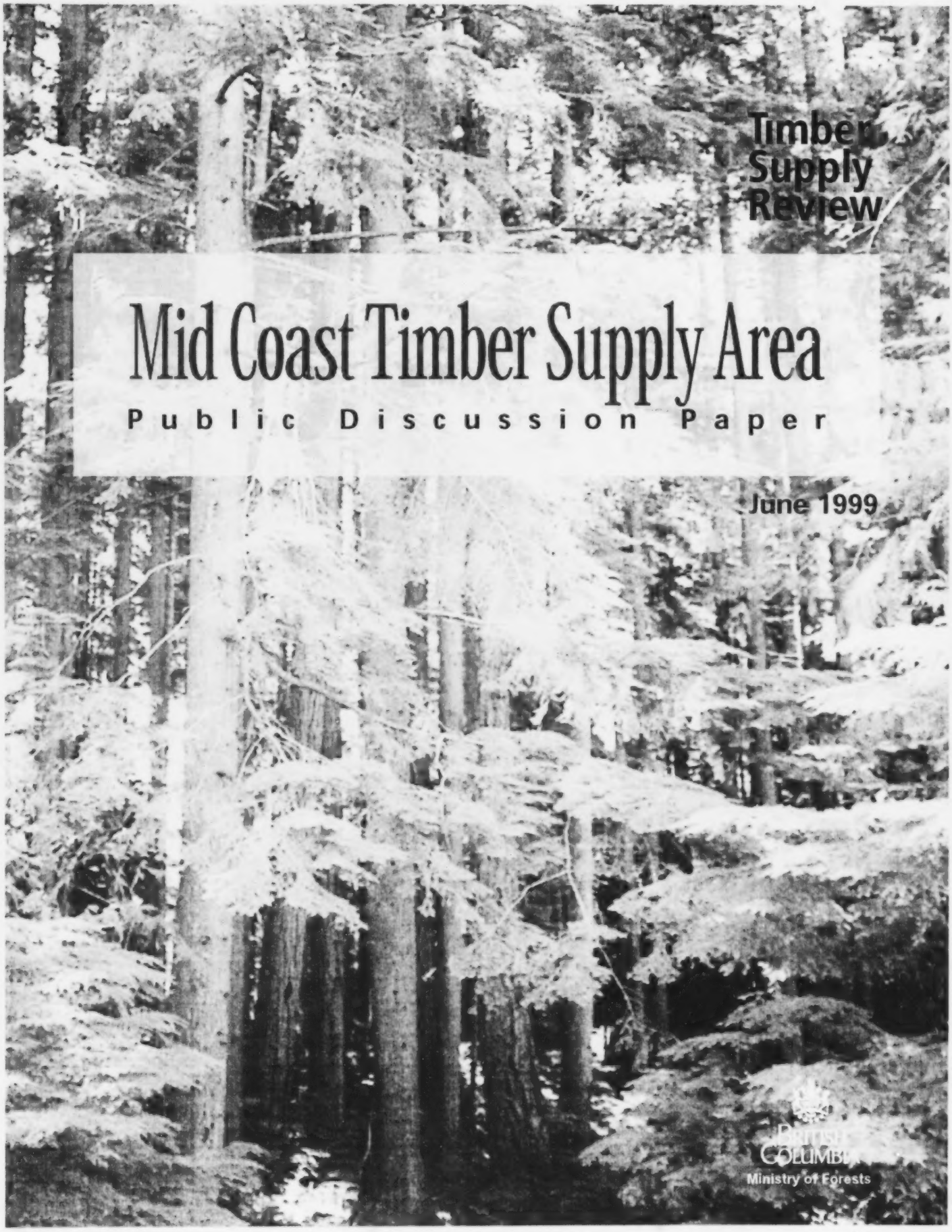


Timber Supply Review

Mid Coast Timber Supply Area

Public Discussion Paper

June 1999

Province of British Columbia
Ministry of Forests

103-07299/

Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas* (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Mid Coast TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are:

- to identify current forest management practices and assess their effects on the short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

Timber Supply Review in the Mid Coast TSA

The *Mid Coast TSA Data Package and Information Report* were released in April 1998. Following the release, the documents were reviewed by licensees, the public and government agencies. The BC Forest Service has now completed the *1999 Mid Coast TSA Analysis Report* which is summarized in this discussion paper. The objectives of this document are to provide British Columbians with an overview of the timber supply review and forecasts for the Mid Coast TSA and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until August 6, 1999.

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester will outline his determination in a rationale statement which will be available, along with the *Summary of Public Input*, to the public. Following the release of the AAC determination by the chief forester, the minister of forests will apportion the AAC to the various licences and programs.

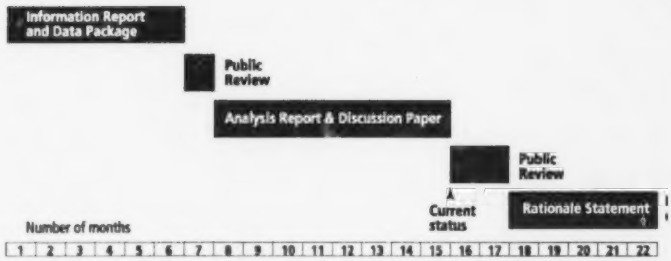
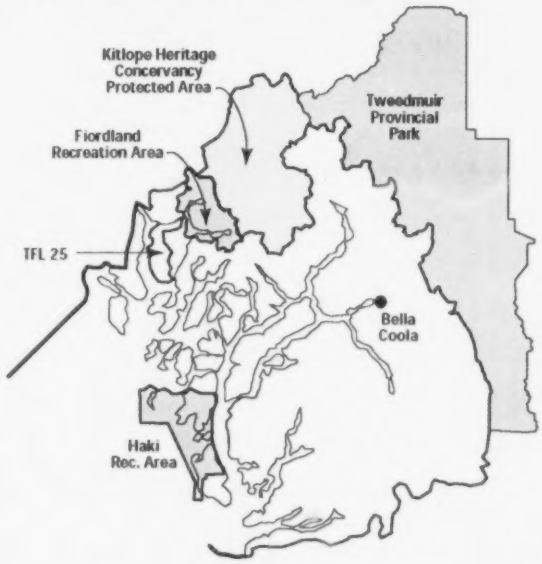

Information Report and Data Package
Public Review
Analysis Report & Discussion Paper
Public Review
Current status
Rationale Statement
Number of months
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Figure 1
Review process for the Mid Coast TSA

Description of the TSA



The Mid Coast TSA is situated on the central coast of B.C. and is administered by the Mid Coast Forest District office in Hagensborg, in the Bella Coola Valley. The TSA covers approximately 2.2 million hectares and is one of the more remote and sparsely populated areas of the province. About half of the 4,230 residents live in the Bella Coola Valley (including Hagensborg and Firvale), about a quarter in Waglisla (or Bella Bella), and the rest in isolated communities along the outer coast. From 1991 to 1996, the population of the TSA increased by about 11 per cent.

**** A timber supply area is an integrated resource management unit established in accordance with section 7 of the Forest Act.***

The natural resources

Numerous natural resources are associated with the forest land base in the Mid Coast TSA. These include old-growth forests, significant wildlife and fish habitat, and tourism and recreation opportunities.

Public release

Over the past several years, the Mid Coast TSA and other areas on the central coast have attracted international attention by virtue of their outstanding scenery and globally-recognized ecological values. The Mid Coast TSA offers extraordinary opportunities for recreation and tourism including the world-renowned Inside Passage cruise ship route through which more than three-quarters of a million visitors pass each year. Several large parks and recreation areas, such as Hakai Pass, are renowned for their scenery and sport fishing activities.

Of particular importance are the old-growth forests and the protected, nutrient-rich estuaries. Of the province's wealth of forests, some of the larger areas of coastal temperate rainforests are located in this TSA. Decisions about the future of the area's forests will be one of the key outcomes of the land-use planning process currently underway (see below under Land-use planning).

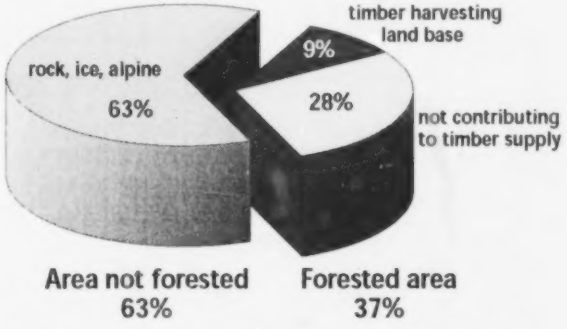


Figure 2 *Total Mid Coast timber supply area*

Only a small portion (9 per cent) of the total Mid Coast TSA is available for timber harvesting—defined as the timber harvesting land base (see Figure 2). About 80 per cent of the forested area is covered with forests older than 200 years (see Figure 3). Most of the rest of the forested area is younger than 40 years (second-growth), and has regenerated following harvesting activity. Generally, the second-growth forests will not be old enough for harvesting until 40 to 50 years from now.

Forests in the TSA have supported a rich and diverse cultural history, with evidence of some of the oldest First Nations habitations on the coast. During the past century, forest harvesting has supported generations of pioneers who logged with oxen, boats and railways. A pulp mill built in the early part of this century at Ocean Falls was the economic centre of the mid coast for most of this century until its closure in the early 1980's.

Wildlife

Grizzly bears, black bears, mountain goats, moose and black-tail deer are among the major wildlife species present in the timber supply area. All the Pacific Ocean salmon species, as well as cutthroat, rainbow and Dolly Varden trout can be found in the streams. More than 200 streams in the area support populations of salmon, many of which contribute to important aboriginal, commercial and sport fisheries.

A wide diversity of marine birds and mammals ranging from Stellar sea lions, sea otters, to Pacific white-sided dolphins and orcas, inhabitat the marine environment.

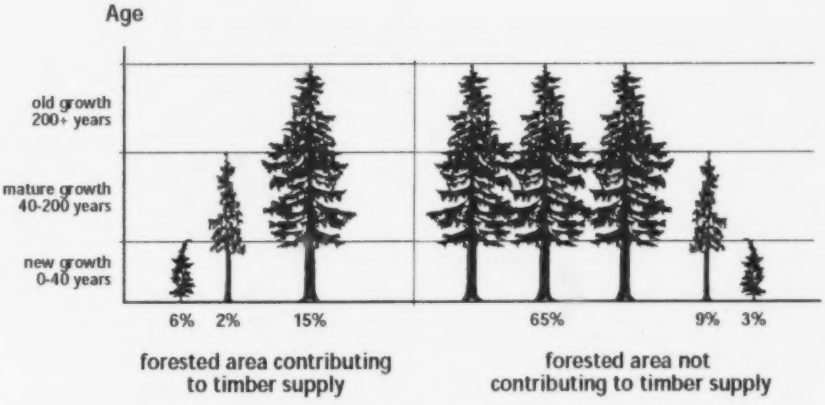


Figure 3 *Total forested area*

Land-use planning

The Central Coast Land and Coastal Resource Management planning process began in the summer of 1997. The planning area covers a large portion of BC's central coast, including all of the Mid Coast TSA. It is one of the first plans in the province to deal with the use and management of both marine and terrestrial resources. Once the plan has been finalized and implemented, it will be considered in future timber supply reviews.

Current AAC

In August 1994, the chief forester set the AAC for the Mid Coast TSA, effective January 1, 1995, at 1 million cubic metres, unchanged from the previous AAC. The AAC was partitioned to specify that 870,000 cubic metres was to be harvested from areas that have supported past harvesting activities, and the remaining volume of 130,000 cubic metres was to be harvested from areas previously considered unmerchantable and areas with difficult access including areas accessible by helicopter.

Socio-economic profile

Regional economy

Information from the 1996 census indicates the public service sector provided the largest component, 32 per cent of employment in the area (see Figure 4). Forestry, composed of logging, forestry services and one-third of the manufacturing sector, is the second largest employer, accounting for approximately 15 per cent of the experienced labour force. The majority of the timber harvested in the Mid Coast TSA is shipped to the Lower Mainland or to Vancouver Island for processing. The exception is Little Valley Forest Products which operates the only processing facility in the TSA. A recent upgrade will increase the mill's capacity to between 50,000 to 70,000 cubic metres per year, and the associated employment may increase by 60 people, up from the 1995 to 1997 average of nine.

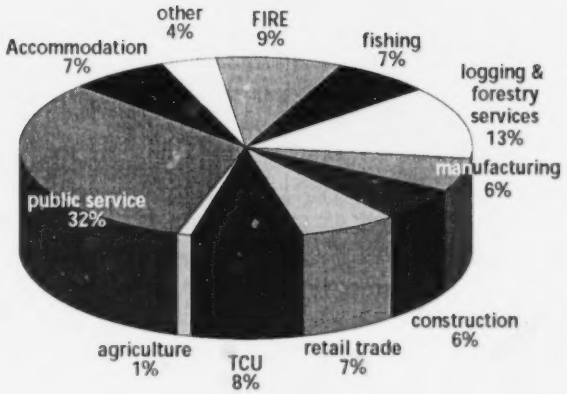


Figure 4 ***Experienced labour force by sector for the Mid Coast TSA, 1996 Census Data***

Note: TCU is transportation, communications and utilities. FIRE is finance, insurance, real estate and other business services. Other includes personal services not elsewhere allocated.

Summary of Local and Provincial Economic Impacts

	TSA	Provincial
Direct Employment (person years)	152	993
Total Employment (person years)	208	2,227
Total Employment Income ($'97 millions/year)	8.8	86.9
Provincial Government Revenues ($'97 millions/year)	n.a.	27.5

Figure 5 ***Economic Summary***

Note: Employment estimates are based on average 1995-1997 employment levels and the average 1995-1997 harvest of about 800,000 cubic metres per year. Provincial government revenue is based on average revenues from 1996-98.

Figure 5 illustrates the potential contribution of the forest industry associated with the Mid Coast TSA timber supply to both the regional and provincial economies.

Timber supply forecasts

A timber supply computer model is used to develop timber supply forecasts for the next 250 years. Rather than taking one view of timber supply and producing a single 'base case' forecast, the timber supply analysis for the Mid Coast TSA examines several possible timber supply projections. The forecasts are not AAC recommendations, but rather, are sources of information the chief forester will consider when setting the AAC. The forecasts presented in this report are for discussion and, due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than these projections.

One of the projections is the 'initial' timber supply forecast (see Figure 6) which is based on the description of current forest management included in the *1998 Mid Coast TSA Data Package*. As discussed below, there is some uncertainty about how much of the total forested area should be considered to contribute to the timber supply over time, nonetheless, this forecast provides a reasonable starting point to examine timber supply. The initial timber supply forecast for the Mid Coast TSA indicates the current AAC of 1 million cubic metres could be maintained for up to 120 years without requiring rapid future harvest level reductions or creating severe future timber disruptions. Beginning 120 years from now, the rate of harvest is projected to decline gradually over the following 30 years to the long-term harvest level of 770,000 cubic metres per year.

The timber supply analysis shows the area projected to be harvested annually fluctuates around an average of about 1,700 hectares throughout the 250 year forecast period. Therefore, although the timber supply forecasts indicate future harvest level declines, the amount of area logged remains relatively constant.

The initial timber supply forecast shows a large change from the base case forecast reported in the 1993 timber supply forecasts. This is due to an increase in the estimate of the timber harvesting land base to reflect contributions of the outer-coast and helicopter-accessible areas. Without these areas, the timber supply forecast starts at 870,000 cubic metres per year, which is similar to the 1993 timber supply forecast. In the previous AAC determination, a partition of 130,000 cubic metres per year was established to test harvesting contributions from historically marginal forest types. The 1999 analysis indicates these additional areas could contribute a steady harvest level of 180,000 cubic metres per year over the long term. The addition of this level to the initial level of 870,000 cubic metres (supportable without the outer-coast and helicopter areas) indicates that the current AAC could be maintained for the next 120 years.

Another projection shows a timber supply forecast from a smaller timber harvesting land base (reduced by about 16,000 hectares) than was used for the initial forecast. This projection is referenced as the 'revised' operability forecast and reflects the results of changing economic assumptions. Over the last five years, harvesting performance in the outer-coast and helicopter-accessible areas has taken place. While this provides increased confidence that these areas can contribute to the timber supply, it is nonetheless difficult to define an exact amount of area which can or will be developed in the future. A recent review of operability resulted in an estimate of a timber harvesting land base about 16,000 hectares smaller than was used in the initial forecast. A 'revised' operability forecast was generated using this smaller timber harvesting land base.

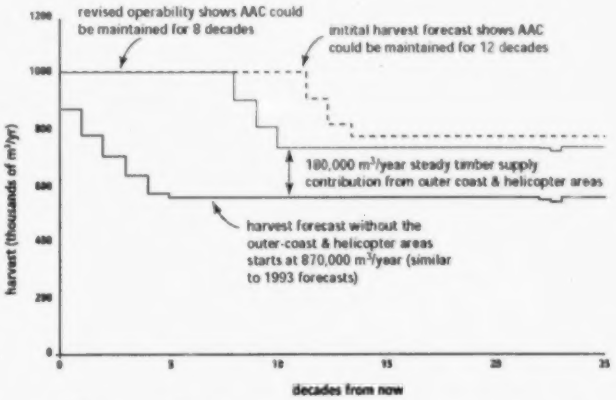

revised operability shows AAC could be maintained for 8 decades
initial harvest forecast shows AAC could be maintained for 12 decades
180,000 m³/year steady timber supply contribution from outer coast & helicopter areas
harvest forecast without the outer-coast & helicopter areas starts at 870,000 m³/year (similar to 1993 forecasts)
harvest (thousands of m³/yr)
decades from now

***Figure 6** Several timber supply forecasts for the Mid Coast TSA, 1999*

The revised forecast indicates that even with the reduced timber harvesting land base, the projected rate of harvest can be maintained for 80 years before declining by 10 per cent per decade to a steady long-term level of about 730,000 cubic meters per year.

The initial forecast over the next 50 years, depends on an increasing contribution from marginally economic timber. Recent harvest statistics report that just under 18 per cent of the current AAC (about 180,000 cubic metres per year) has been harvested from the outer-coast and helicopter-accessible areas.

The outer-coast areas are considered economically marginal due to (on average) lower timber quality and higher harvesting costs. The helicopter-accessible areas are also considered economically marginal due to higher operating costs. However, the higher cost of harvesting with helicopters is offset by reduced road development costs which, in balance, can make helicopter logging the least-cost harvest method in areas with potentially high road development costs.

Harvesting the higher-cost timber will be economic if the revenues from the sale of the timber at least equal the cost of harvesting it. Operating below this margin would require subsidization from other more economic harvesting operations in the Mid Coast TSA. Naturally, the economic timber margin is quite sensitive to changes in log prices. If forest companies are unable to economically harvest in the Mid Coast's marginal stands on a continual basis, it is likely that the timber supply cannot be maintained for 80 to 120 years as indicated by the timber supply analysis.

Old-growth Site Index Study

The results of recent studies, as part of the Old-Growth Site Index project, suggest that the estimated future productivity of areas currently occupied by old-growth stands, may be under-estimated. This research compares the productivity of existing regenerated stands with the productivity estimates of nearby old-growth stands growing on ecologically identical sites. The measured productivity of the regenerated stands has generally been found to be higher than the productivity of the old-growth stands. These results are based on the maximum potential site productivity that might be achieved under ideal conditions. However, in the field, regenerated stands and subsequent growth does not always occur under ideal conditions due to factors such as competition from brush or over-stocking. Therefore, many stands may not reach the maximum potential productivity suggested by research unless they are managed in a way that attains maximum growth.

Nonetheless the research does indicate a trend and shows that estimates of site productivity are very likely underestimated for future second-growth stands. For the Mid Coast TSA, it was found that if the estimated site indices for all old-growth stands were increased by the maximum potential suggested by research, the short- to mid-term timber supply could be increased by almost 20 per cent.

Critical issues: examining uncertainty

Since forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by uncertainties in the inventory information and management practices. These uncertainties are generally examined in sensitivity analyses which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information or uncertainties and risks might affect timber supply.

In the Mid Coast TSA, a number of sensitivity analyses were conducted to examine the stability of the timber supply. One critical issue is the concern about the increase in the size of the timber harvesting land base, as discussed below. For a complete listing, please refer to the *1999 Mid Coast TSA Analysis Report*.

Uncertainty about the size of the timber harvesting land base

As discussed in the timber supply forecast section (see above), the timber supply forecasts are very sensitive to changes in assumptions about the estimated size of the timber harvesting land base. The Mid Coast TSA is a very large area, comprised of complex terrain and forest types. Determining how much of this area should realistically contribute to the timber supply—after reflecting environmental objectives—involves complex considerations and projections about future economics and technology. This issue will be thoroughly considered in the upcoming AAC determination along with public input on this matter.

Implications of changes in the AAC

Environmental Implications

Current forest management follows the standards set out by the Forest Practices Code. These standards manage for a range of biodiversity and wildlife values. In the Mid Coast analysis area even after considering the potential development of the outer coast and helicopter-accessible areas, about 75 per cent of the forested area is not considered available for timber harvesting and will provide for many environmental values. Forested area both in and

outside of the timber harvesting land base will aid in the maintenance of critical forest habitats for many species.

First Nations Implications

The Mid Coast TSA is within the traditional territory of five First Nations, one of which resides outside the TSA. Treaty negotiations are currently underway with four of the First Nations.

Few of the First Nations people have been involved in the forest industry, although this is changing as First Nations forestry crews work with major forest licensees in their traditional territories.

For First Nations, the commercial fishery is the most important economic sector as well as having significant cultural importance, so any forestry-related impacts on the fisheries are of significant concern. All of the First Nations in this TSA have expressed concerns about timber harvesting in areas with high cultural and economic values (e.g., burial grounds, kelp beds, culturally modified trees). An archaeological overview assessment is currently underway as part of the central coast planning process.

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. The current AAC of 1 million cubic metres, if fully harvested, supports approximately 190 person-years of direct employment and a further 70 person-years of indirect and induced employment within the Mid Coast TSA. The initial forecast indicates the current AAC could be maintained for 12 decades; only after that is the harvest and associated employment projected to decline. However, changes in markets and technology may change these numbers even if timber supply remains constant.

The Mid Coast TSA is an important source of timber for mills in the southwest portion of the province. As harvests decline in other areas, the Mid Coast TSA, as indicated by the harvest forecasts, will become an increasingly important and stable source of timber for this region of the province.

However, although the area is recognized as an important regional source of timber supply, many residents in the Mid Coast TSA have expressed concern about the amount of the timber that is transported out of the area for processing without generating a greater share of local employment.

Your input is needed

Establishing the AAC is an important decision which requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the 1999 Mid Coast TSA Analysis Report and other issues related to the timber supply in the Mid Coast TSA. Forest Service staff would be pleased to discuss questions or concerns you may have that would help you prepare your response. Please send your comments to the forest district manager at the address below. Your comments will be accepted until August 6, 1999.

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the *Freedom of Information and Protection of Privacy Act* and may be made public. If the responses are requested, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact and/or mail your comments to:

District Manager,
B.C. Forest Service
Mid Coast Forest District
Box 190, Sawmill Road,
Hagensborg, B.C.
V0T 1H0

Phone: (250) 982-2000
Fax: (250) 982-2090
or electronically mail to
Nancy.Colpitts@gems3.gov.bc.ca

Background Information Regarding TSR

The Chief Forester's Responsibility

Determining the Allowable Annual Cuts (AACs) for public forest lands in British Columbia is the responsibility of the province's chief forester. Section 8 of the *Forest Act* requires the chief forester to consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
   - the composition of the forest and its expected rate of growth
   - the time in which the forest will become re-established
   - silviculture treatments, including reforestation
   - standards of timber utilization
   - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province—as expressed by the minister of forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not directed by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from any source, including interest groups. However, he cannot allow these determinations to be inappropriately influenced by the advocacy efforts of one group.

Why the current AAC may be higher than the long-term harvest level

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors which explain this difference:

- In the short term, harvesting takes place in older forests which have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, often yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce AACs in a managed transition to the lower level over several decades (provided the long-term harvest level is not jeopardized). This allows communities which rely on the forest sector to avoid sudden economic disruptions and to plan for the future.

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